

Driving Standardization in the New York Solar Market

BQ Energy - Patterson

BQ Energy (“BQ”) is a renewable energy project developer specializing in landfill and brownfield site redevelopment. BQ and NY Green Bank (“NYGB”) have closed on the first transaction of an anticipated \$30.0 million portfolio that will utilize the same standardized approach for upcoming projects. In this arrangement, BQ will receive a construction loan to finance a 1.37 megawatt (“MW”) solar project located on a closed municipal landfill located in Patterson, NY. Upon completion, the construction loan will be refinanced with a term loan provided by NYGB. Solar power from this project will be used by a Hudson Valley institution to power its facilities using New York State’s remote net metering.

Transaction Description

BQ is a Poughkeepsie, New York-based renewable energy project developer specializing in landfill and brownfield site redevelopment. As the first project in what is expected to be a \$30.0 million portfolio, NYGB’s construction and term loan facility (the “**Credit Facility**”) enables BQ to complete the 1.37 MW Patterson project, (“the “**Project**”), to be constructed on a closed municipal landfill located in, and owned by, the Town of Patterson, NY. When completed, the Project will generate revenue by selling remote net metering energy credits to a large institutional power consumer, providing significant energy cost reduction, with the clean power distributed on New York State Electric & Gas grid.

The Project is the first of several similar solar projects in BQ’s pipeline that NYGB anticipates financing as part of a larger portfolio. BQ expects the majority of projects to be located on landfill and brownfield sites in Western and Central NY, Hudson Valley, and Long Island, providing non-profit organizations, municipalities, universities, schools and hospitals, as well as utilities, with clean, reliable power. NYGB’s participation in the Project – and in similar developments in the proposed portfolio arrangement – will help expand financing opportunities for smaller (less than 10.0 MW) solar systems by fostering standardization in several respects. First, this portfolio of projects will use the same approach – including BQ’s retaining the same balance of plant contractor for the majority of the portfolio projects – along with a streamlined, uniform approach to developing contracts and using the same equipment in each portfolio project. Second, the underwriting process will be standardized, specifically as relates to remote net metering, which can be replicated for other transactions, including those with counterparties that do not have a rating provided by a rating agency.

This Transaction Profile is provided pursuant to the “NY Green Bank – Metrics, Reporting & Evaluation Plan, Version 3.0” (the “**Metrics Plan**”) developed in collaboration with the New York State (“**NYS**”) Department of Public Service and filed with the NYS Public Service Commission (the “**Commission**”) on June 20, 2016.² This Transaction Profile contains specific information in connection with the BQ transaction (which was entered into on April 11, 2016), as required by the Metrics Plan.³

Form of NYGB Investment

NYGB Product	Product Sub-Type	Committed Capital
Asset Loan & Investment	Construction & Term Loans	\$1.5 million

¹ Refer to the Summary of Changes document for details of updates, available at www.greenbank.ny.gov/Investments/Transaction-Profiles.

² Case 13-M-0412.

³ See Section 4.0, page 8 and Schedule 3.

Location(s) of Underlying Project(s)

Putnam County. The project is located in Patterson, New York. The future portfolio projects are expected to be located in various counties throughout New York State.

Types of Client & Partner Organizations that are Transaction Participants

	Name	Participant Type
Client	BQ Energy	Energy Project Developer
Partners (current)	Balance of Plant Contractor	Industry Vendor
	Solar Panels	Industry Vendor
	Racking System	Industry Vendor
	Inverters	Industry Vendor
	Hudson Valley Institution	Institutional End-User (remote net metering credits)
Partners (future)	To be determined private lenders	Will be identified along with additional projects in the portfolio resulting in scale

Summary of Financing Market Objectives & Barriers Addressed

Beneficiary	Market Barrier	Financing Solution
Smaller-scale Solar Developers	Many smaller-scale solar developers face challenges in securing adequate construction and long-term financing, particularly for smaller to mid-sized solar projects (less than 10.0 MW), as these developers are restricted by their size and comparatively limited track record.	This transaction will drive growth in the small to mid-size solar sector for developers by utilizing a standardized set of lending and contracting arrangements, and equipment. As a result, underwriting efficiency increases and transaction costs are reduced. Developing standardized projects within a portfolio provides for a more attractive financing opportunity to a larger potential investor group, with increased funding options resulting in reduced transaction and financing costs.
Commercial and Industrial (“C&I”) Businesses and Facilities	C&I counterparties are the power buyer or remote net metering counterparty. Financiers often require such counterparties to have a credit rating by a major rating agency to evaluate risk. Lack of a rating increases the time and cost of conducting thorough credit analysis. ⁴	This transaction has been designed to standardize the underwriting process for unrated counterparties, and to open the market to include more unrated C&I counterparties. By developing a standardized approach to these types of projects, it becomes more straightforward for institutional investors and other capital providers to understand the risk profile affiliated with these counterparties, such that underwriting the counterparties is more replicable and efficient.
Private Market Participants	The construction and operation of commercial and industrial distributed energy projects continues to emerge in New York’s clean energy marketplace. In many cases, there is not yet the scale and standardization required to attract many potential private equity and debt investors.	A standardized approach to project development will enable developers to establish a track record within their portfolio as well as create scale to appeal more broadly to traditional private capital providers. This in turn will create additional familiarity with the asset class and greater scale, resulting in increasing refinancing options and liquidity.

⁴ In finance, a “rating” refers to a letter grade assigned to a corporation or its debt instruments by a ratings agency such as Standard & Poor’s, Moody’s or Fitch. Ratings are based on a prediction of default probability, so the better the rating the more likely the firm will be to pay periodic interest and repay the principal. Low ratings indicate a relatively high chance that the firm will fail to honor its payment obligations. Lower ratings generally result in higher interest rates.

Technologies Involved

Technology	Measures
Renewable Energy	Solar photovoltaic (“PV”) systems

Metrics & Evaluation Plan

Planned Energy & Environmental Metrics

NYGB’s minimum investment criteria specifically require that “transactions will have the potential for energy savings and/or clean energy generation that will contribute to greenhouse gas [(“GHG”)] reductions in support of New York’s energy policies”.⁵ In addition, the Metrics Plan requires that the following energy and environmental measures, applicable to this transaction, be reported on⁶:

- Estimated lifetime and first-year clean energy generated (MWh);⁷
- Estimated clean energy generation installed capacity (MW); and
- Estimated lifetime and first-year GHG emission reductions (metric tons).

The estimated lifetime and first-year energy and environmental impacts of the Project, facilitated by NYGB’s financial participation in this transaction, are as follows:

Energy/Environmental Impact	Lifetime Low Estimate	Lifetime High Estimate	First-Year Low Estimate	First-Year High Estimate
Estimated clean energy generated (MWh)	36,300	44,400	1,450	1,780
Estimated clean energy generation installed capacity (MW) ⁸	1.37	1.37	Not Applicable	
Estimated GHG emission reductions (metric tons) ⁹	19,100	23,400	765	935

Planned Market Characterization Baseline & Market Transformation Potential

The Metrics Plan requires that market evaluation will occur when a critical mass of NYGB financing and investment arrangements are put in place. This market evaluation will be conducted on sectors that NYGB has supported and will occur approximately three to five years following initial NYGB capital deployments. Baseline data will be collected in 2017 for most indicators as a comparison point against which to assess market progress in the later studies. Progress indicators are defined below for the short, mid and long-terms.¹⁰

Short-term progress indicators will identify early activity levels and will be regularly tracked for the duration of the transaction. These include, but are not limited to:

- Size (generation capacity and dollar value) of the Project if different from proposed plans; and
- Performance of installed system.

⁵ Case 13-M-0412, “Order Establishing New York Green Bank and Providing Initial Capitalization” issued and effective December 19, 2013 of the Commission, Ordering Clause 6 at pages 24 – 25.

⁶ See Metrics Plan, Section 2.0, pages 2 – 6.

⁷ First year energy generation refers to the first year of estimated energy generation once a measure is installed and as such generation will not necessarily correspond to the first year of the investment term. The majority of NYGB’s investments have a two to three-year development cycle in which projects are originated, installed and placed into commercial operation.

⁸ Installed clean energy generation capacity at full deployment of funds is the same for first-year and lifetime duration.

⁹ As of January 1, 2016, the New York State Energy Research and Development Authority (“NYSERDA”) utilizes a 1,160 lbs/MWh conversion factor to estimate GHG emissions reductions for electric generation and energy efficiency savings across all components of the Clean Energy Fund. NYSERDA previously utilized a 625 lbs/MWh conversion factor.

¹⁰ See Metrics Plan, Section 3.3 at page 7.

Mid and long-term indicators will be expected to show progress through program tracking or market evaluation over time. These include, but are not limited to:

- Access to, and accessibility of, solar project performance data produced by the Project and similar developments comprising a single portfolio, particularly in any refinancing of a BQ project;
- Greater availability of construction loan options for small PV projects;
- Decreased project cost for BQ and other developers (procurement, permitting, legal, due diligence), due to greater standardization and scale; and
- Demonstration of competitive risk-return profiles for solar investment in NYS.

Proposed Method of Outcome/Impact Evaluation (by NYSERDA) & Timeframe

NYSERDA will evaluate the impact this transaction has had on the clean energy finance markets and the energy/environmental benefits delivered by this transaction. It is anticipated outcome/impact evaluation will focus on all of the proposed BQ projects as a whole and identify specific findings by project as warranted.

Market evaluation will address the short, mid and long-term indicators identified above. Methods will include analysis of program data along with interviews and surveys of market participants to track information including but not limited to: project scale information, interest in solar financing, and influence of NYGB's participation on financial markets. As noted, baseline data will be collected on most key indicators in 2017 and later follow-up studies will assess progress against baseline levels. The specific timing of these efforts may be revised based on experience or other factors as each project and the overall portfolio evolve.

Impact evaluation will use actual system performance data to understand energy and environmental outcomes; on-site verification; and/or electronic monitoring of clean energy generation. Impact evaluation is expected to include periodic review and analysis of actual PV system electricity production data collected by BQ. In instances where actual performance varies from expected performance, site visits could be conducted to identify causes and corrective actions. Impact evaluation will help provide verification of performance, in turn aiding the clean energy finance community in better understanding risks in this technology area.

As with all NYGB investments, BQ projects that receive an incentive or funding from other entities (e.g., utility or other NYSERDA program) will, in accordance with the Metrics Plan, ideally be tracked in order to minimize any double-counting activity on a consolidated basis. As set out in the Metrics Plan, evaluation sampling approaches will also be used as a mechanism to estimate overlap and minimize double counting. Attempts will also be made to coordinate market and impact evaluation activities for these Projects that receive support from multiple sources in order to maximize the efficiency of data collection and avoid participant survey fatigue.